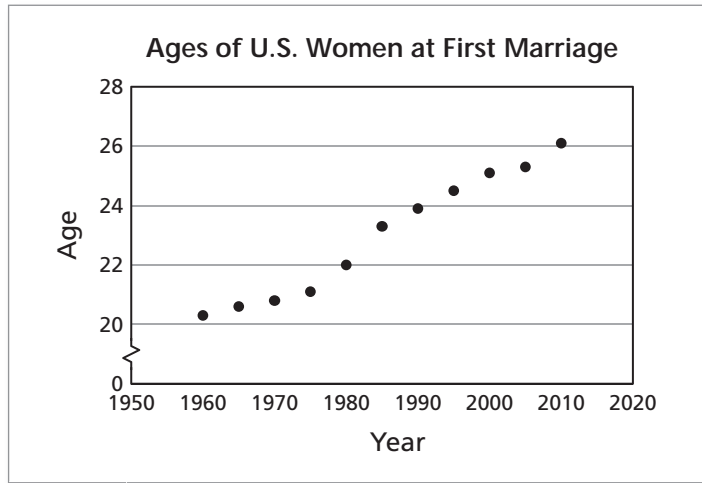## Using a Linear Pattern to Predict a Future Event

One common use of linear patterns is predicting future events.
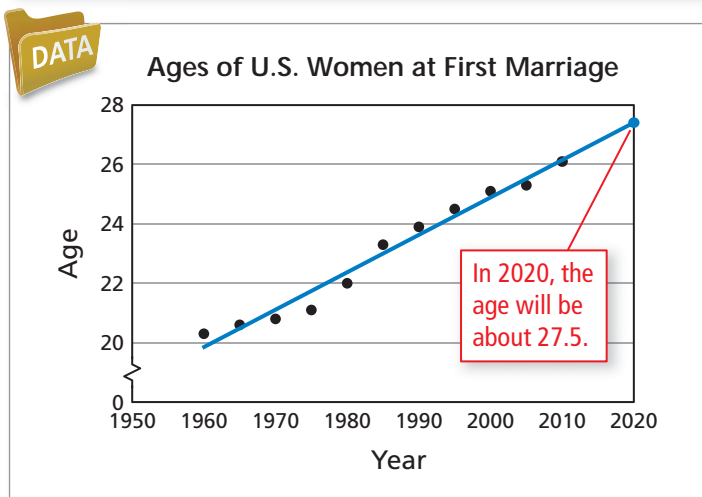
EXAMPLE 3 **Predicting a Future Event**

The graph shows the ages of American women at the time of their first marriage from 1960 through 2010. Use the graph to predict the age in 2020.

Ages of U.S. Women at First Marriage

SOLUTION

The pattern looks roughly linear. One way to estimate the age in 2020 is to draw a "best-fitting line" to approximate the data. Then use the line to estimate the age in 2020.
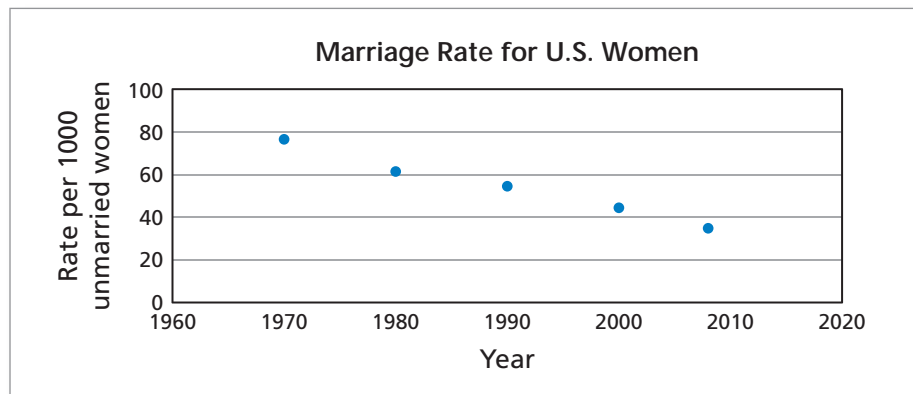
From the graph, it appears that the age of women at their first marriage in 2020 will be about 27.5.

DATA

Ages of U.S. Women at First Marriage

In 2020, the age will be about 27.5.

Study Tip

The procedure described in Example 3 is called *linear regression*. It is a commonly used procedure in statistics.

✓ **Checkpoint**

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Use the graph below to predict the marriage rate for women in the United States in 2020. How do these data relate to the data in Example 3?

Marriage Rate for U.S. Women